

What is Claimed is:

1. A method for detecting a non-writable region of an optical recording medium including a plurality of non-writable regions of different phases having information for controlling a writable data region between the writable data regions, the method comprising the steps of:

5 (1) obtaining a sum of optical signals reflected at the optical recording medium; and,
 (2) comparing the summed signal to a fixed reference value to determined a region thereof as a non-writable region if the summed signal is higher than the fixed reference value.

2. A method as claimed in claim 1, wherein the non-writable region is a header region.

10 3. A method as claimed in claim 1, wherein the step (2) includes the step of producing a TZC(Tracking Zero Crossing) signal having an influence of the non-writing region removed therefrom, when the non-writable region is detected.

4. A method as claimed in claim 3, wherein the TZC signal is obtained from a tracking error signal, a difference of optical signals reflected at the optical medium.

15 5. A method as claimed in claim 3, wherein the step (2) further includes the step of counting a number of pulses of the TZC signal, for carrying out a track jump.

6. A method as claimed in claim 3, wherein the step (2) further includes the step of counting a number of pulses of the TZC signal, for measuring an eccentricity of the optical recording medium.

7. A method as claimed in claim 1, wherein the step (2) further includes the step of holding a servo error signal for carrying out a servo control if a point of the optical recording medium being written or read at the present time is determined to be a non-writable region.

8. A method as claimed in claim 1, wherein the step (2) further includes the steps of;
5 counting a number of the determined non-writable regions, to determine the present track of being a land track or a groove track, and
carrying out land/groove switching depending on a result of the determination.

9. A method for detecting a non-writable region of an optical recording medium including a plurality of non-writable regions of different phases having information for controlling a
10 writable data region between the writable data regions, the method comprising the steps of:

(1) obtaining a difference of optical signals reflected at the optical recording medium, a tracking error signal, for high pass filtering the tracking error signal; and,

(2) signal shaping a high pass filtered value, to determine a region thereof as the non-writable region if the signal shaped value is greater than a fixed reference value.

15 10. A method as claimed in claim 9, wherein the step (2) includes the step of producing a TZC(Tracking Zero Crossing) signal having an influence of the non-writing region removed therefrom, when the non-writable region is detected.

11. A method as claimed in claim 10, wherein the step (2) further includes the step of counting a number of pulses of the TZC signal, for carrying out a track jump.

12. A method as claimed in claim 10, wherein the step (2) further includes the step of counting a number of pulses of the TZC signal, for measuring an eccentricity of the optical recording medium.

13. A method as claimed in claim 9, wherein the step (2) further includes the step of
5 holding a servo error signal for carrying out a servo control if a point of the optical recording medium being written or read at the present time is determined to be a non-writable region.

14. A method as claimed in claim 9; wherein the step (2) further includes the steps of;
counting a number of the determined non-writable regions, to determine the present track
of being a land track or a groove track, and
10 carrying out land/groove switching depending on a result of the determination.

15. A device for detecting a non-writable region of an optical recording medium including a plurality of non-writable regions of different phases having information for controlling a writable data region between the writable data regions, the device comprising:

a first non-writable region detector for obtaining a sum of optical signals reflected at the
15 optical recording medium for low pass filtering the optical signals, and providing a first non-writable region detecting signal if the low pass filtered value is greater than a first reference value;

a second non-writable region detector for obtaining a difference of optical signals reflected at the optical recording medium, a tracking error signal, for high pass filtering the
20 tracking error signal, signal shaping the high pass filtered value, and providing a second non-

writable region detecting signal if the signal shaped value is greater than a second reference value;

a writable region determiner for determining the present point of being a written region or unwritten region, and providing a result of the determination; and,

5 a non-writable region detecting signal generator for producing and forwarding a final non-writable region detecting signal from the first non-writable region detecting signal and the second non-writable region detecting signal according to a result of the determination.

16. A device as claimed in claim 15, wherein the non-writable region detecting signal generator provides either the first non-writable region detecting signal as the final non-writable
10 region detecting signal if the present point is determined to be the written region and the first and second reference values are fixed, or the second non-writable region detecting signal as the final non-writable region detecting signal if the present point is determined to be the unwritten region and the first and second reference values are fixed.

17. A device as claimed in claim 15, wherein, if the first reference value is changeable,
15 the non-writable region detecting signal generator compares the changeable first reference value to the low pass filtered value, to produce the non-writable region detecting signal, and applying the non-writable region detecting signal both to the written/unwritten regions.

18. A device as claimed in claim 15, wherein, if the second reference value is changeable,
the non-writable region detecting signal generator compares the changeable second reference
20 value to the high pass filtered and signal shaped value, to produce the non-writable region detecting signal, and applying the non-writable region detecting signal both to the written/unwritten regions.